APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,627	04/16/2002	Ah Hwee Tan	P21834	7768

7055 7590 03/15/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191	**EXAMINER** COUGHLAN, PETER D

ART UNIT	PAPER NUMBER
2129	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/15/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/049,627	TAN ET AL.
	Examiner	Art Unit
	Peter Coughlan	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-16 and 19-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-16 and 19-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *2/22/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Detailed Action

1.   This office action is in response to an AMENDMENT entered January 16, 2007

for the patent application 10/049627 filed on February 22, 2002.

2.   All previous Office Action of August 8, 2005 are fully incorporated into this Final

Office Action by reference.

Status of Claims

3.   Claims 1-4, 9-16, 19-25 are pending.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 1, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Masand et al in view of White et al and further in view of Mizuno.(U. S. Patent 5251131,

referred to as **Masand**; U. S. Patent 5933490, referred to as **White**; U. S. Patent

5577166, referred to as **Mizuno**)

Claim 1

Masand teaches a feature extractor that extracts a plurality of features from a

document (**Masand,** abstract, 'Feature extractor' of applicant is demonstrated by

'features are extracted' of Masand.); a classifier operable on the extracted features to

process the document in a knowledge acquisition mode in which the association of a

classification with each document is added incrementally to a knowledge base

(**Masand,** C29:63 through C30:39; 'Knowledge acquisition mode' of applicant is

equivalent to 'training data bases (TDB) of Masand. 'Added incrementally' of applicant is

equivalent to 'piecemeal approach' of Masand.) and in a document classification mode

in which the classifier, using the knowledge base, is operable to determine a predicted

classification for the document. (**Masand,** C3:3-24; An example of a 'knowledge base'

of applicant is equivalent to 'medical database' of Masand.)

Masand and White do not teach the classifier being switchable between the

modes under user control.

Mizuno teaches the classifier being switchable between the modes under user

control. (**Mizuno,** C6:13-18) It would have been obvious to a person having ordinary

skill in the art at the time of applicant's invention to modify the combined teachings of

Masand and White by a means to alter between training and classifying as taught by

Mizuno to have the classifier being switchable between the modes under user control.

For the purpose of allowing the user a choice when training or classifying is to be

used.

Masand teaches a router (**Masand,** C9:4-16) arranged to route the document to

one of a plurality of destinations in dependence upon the classification(**Masand,** C1:9-

12 and C1:21-26), wherein the classification has associated therewith a confidence

value (**Masand,** C7:1-25; 'Confidence value' of applicant is equivalent to 'cumulative

comparison score' of Masand.), and wherein the router is arranged to compare the

confidence value is comparable-to a threshold, the router being arranged to make at

least one of an automatic routing decision and a manual routing decision in dependence

upon the comparison. (**Masand,** C7:1-25; Comparing a confidence value to a threshold

value of applicant is equivalent to comparing a 'cumulative comparison score' to a

'predetermined threshold score' of Masand.)

Masand does not teach wherein the threshold is adjustable to match a desired

confidence value to allow transition from a state where manual routing is favored to a

state that favors automatic routing.

White teaches wherein the threshold is adjustable (**White,** C18:5-13; 'Threshold

is adjustable' of applicant is equivalent to 'dynamic threshold' of White.) to match a

desired confidence value to allow transition from a state where manual routing is

favored to a state that favors automatic routing. (**White,** C13:65 through C14:6;

'Automatic routing' of applicant is equivalent to either 'automatic route selection' of

'automatic alternate routing' of White.) It would have been obvious to a person having

ordinary skill in the art at the time of applicant's invention to modify the teachings of

Masand by having an adjustable threshold as taught by White to have the threshold is

adjustable to match a desired confidence value to allow transition from a state where

manual routing is favored to a state that favors automatic routing.

For the purpose of having a flexible system so that it can change with new

information.

Claim 17

Masand teaches a feature extractor that extracts a plurality of features from a

document (**Masand,** abstract, 'Feature extractor' of applicant is demonstrated by

'features are extracted' of Masand.); a classifier operable, using a knowledge base, to

determine from the features a predicted classification for the document, the

classification having a confidence value associated therewith (**Masand,** C7:1-25;

'Confidence value' of applicant id equivalent to 'cumulative comparison score' of

Masand.); and a router arranged to compare the confidence value to a threshold and

make a decision to route the document automatically to one of a plurality of destinations

and or to a destination for manual routing in dependence upon the comparison. (**White,**

C13:65 through C14:6; 'Automatic routing' of applicant is equivalent to either 'automatic

route selection' of 'automatic alternate routing' of White.)

Masand does not teach wherein the threshold is adjustable to match a desired

confidence value to allow transition from a state where manual routing is favored to a

state that favors automatic routing.

White teaches wherein the threshold is adjustable to match a desired confidence

value to allow transition from a state where manual routing is favored to a state that

favors automatic routing. (**White,** C18:5-13; 'Threshold is adjustable' of applicant is

equivalent to 'dynamic threshold' of White.) It would have been obvious to a person

having ordinary skill in the art at the time of applicant's invention to modify the teachings

of Masand by have an adjustable threshold as taught by White to have the threshold is

adjustable to match a desired confidence value to allow transition from a state where

manual routing is favored to a state that favors automatic routing.

For the purpose of having a flexible system so that it can change with new

information.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, White and Mizuno as set forth above, and further in view of Tan ('Learning user profiles for personalized information dissemination', referred to as **Tan**)

Claim 2

Masand, White and Mizuno do not teach a supervised adaptive resonance theory (ART) system.

Tan teaches a supervised adaptive resonance theory (ART) system. (**Tan,** Abstract) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by the detail of what type of neural network as taught by Tan to have a supervised adaptive resonance theory (ART) system.

For the purpose of having a system that performs incremental supervised learning of recognition categories and multidimensional maps for both binary and analog patterns.

Claim 4

Masand, White and Mizuno do not teach an adaptive resonance associative map (ARAM) system.

Tan teaches an adaptive resonance associative map (ARAM) system. (**Tan,** Abstract) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by going into detail into what kind of neural network as taught by Tan to have an adaptive resonance associative map (ARAM) system.

For the purpose of providing a predicted classification for the output document in response to the input feature vector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, White and Mizuno, as set forth above, and further in view of Tan2 ('Cascade ARTMAP: Integrating neural computation and symbolic knowledge processing', referred to as **Tan2**)

Claim 3

Masand, and White do not teach the system comprises an ARTMAP system.

Tan2 teaches the system comprises an ARTMAP system. (**Tan2,** abstract) It

would have been obvious to a person having ordinary skill in the art at the time of

applicant's invention to modify the combined teachings of Masand, White and Mizuno

by describing what type of neural network is used as taught by Tan2 to have the system

comprises an ARTMAP system.

For the purpose of allowing incremental learning and rule insertion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Masand, White and Mizuno, as set forth above, and further in view of

Alam. (U. S. Patent 6104500, referred to as **Alam**)

Claim 9

Masand, White and Mizuno do not teach one of the plurality of destinations is a

system administrator workstation where the router is arranged to route the document for

manual routing after the manual routing decision.

Alam teaches one of the plurality of destinations is a system administrator

workstation where the router is arranged to route the document for manual routing after

the manual routing decision. (**Alma,** C10:26-40; 'System administrator' of applicant is

equivalent to 'operator' of Alma.) It would have been obvious to a person having

ordinary skill in the art at the time of applicant's invention to modify the combined

teachings of Masand, White and Mizuno by having a network of users which the

administrator has access to as taught by Alma to have one of the plurality of

destinations is a system administrator workstation where the router is arranged to route

the document for manual routing after the manual routing decision.

For the purpose of the administrator to send and receive information from a

plurality of destinations.

Claim 10

Masand, White and Mizuno do not teach the features are formed into a feature

vector for input to the classifier.

Alma teaches the features are formed into a feature vector for input to the

classifier. (**Alma,** C11:64 through C12:11) It would have been obvious to a person

having ordinary skill in the art at the time of applicant's invention to modify the combined

teachings of Masand, White and Mizuno by using vectors as taught by Alma to have the

features are formed into a feature vector for input to the classifier.

For the purpose of having inputted data into a form which maps to a neural

network well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 11, 12, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over the combination of Masand, White and Mizuno, as set forth above, and further in

view of Register. (U. S. Patent 5371807, referred to as **Register)**

Claim 11

Masand, White and Mizuno do not teach at least one of classification associated

words and phrases which may appear in the document.

Register teaches at least one of classification associated words and phrases which may appear in the document. (**Register,** C4:58-62) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by using words and phrases for input as taught by Register to have at least one of classification associated words and phrases which may appear in the document.

For the purpose of using words to classify documents that contain words.

Claim 12

Masand, White and Mizuno do not teach the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

Register teaches the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.(**Register,** C8:16-24) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by using frequency as a metric as taught by Register to have the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

For the purpose of using the value of the frequency as a direct correlation towards a specific classification.

Claim 16

Masand, White and Mizuno do not teach the computer implemented document classification apparatus is operable in the knowledge acquisition mode to process a plurality of training documents with associated classifications as a batch.

Register teaches the computer implemented document classification apparatus is operable in the knowledge acquisition mode to process a plurality of training documents with associated classifications as a batch. (**Register,** C3:37-52; 'Training' of applicant is equivalent to 'learning' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by being able to batch train as taught by Register to have the computer implemented document classification apparatus is operable in the knowledge acquisition mode to process a plurality of training documents with associated classifications as a batch.

For the purpose of getting the system running earlier by training with batches instead of individual documents one at a time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, White and Mizuno, as set forth above, and further in view of Glier. (U. S. Patent 5479574, referred to as **Glier**)

Claim 13

Masand, White and Mizuno do not teach the destinations include a system administrator workstation to which the other destinations are connected, misrouted documents being sendable by other destinations to the system administrator workstation for manual routing.

Glier teaches the destinations include a system administrator workstation to which the other destinations are connected, misrouted documents being sendable by other destinations to the system administrator workstation for manual routing. (**Glier,** C14:50-58; 'Routing' of applicant is equivalent to 'classification' of Glier.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by having an administrator for assistance as taught by Glier to have the destinations include a system administrator workstation to which the other destinations are connected, misrouted documents being sendable by other destinations to the system administrator workstation for manual routing.

For the purpose of having another option for routing documents.

Claim 14

Masand, White and Mizuno do not teach the system administrator workstation is connected to the feature extractor and the classifier, the arrangement being such that a misdirected document, in association with an actual classification supplied at the system administrator workstation, is processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base.

Glier teaches the system administrator workstation is connected to the feature extractor and the classifier, the arrangement being such that a misdirected document, in association with an actual classification supplied at the system administrator workstation, is processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base. (**Glier, C14:50-58**; 'Knowledge acquisition mode' of applicant is equivalent to 'retraining mode' of Glier.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by having all the modules including the administrator connected as taught by Glier to have the system administrator workstation is connected to the feature extractor and the classifier, the arrangement being such that a misdirected document, in association with an actual classification supplied at the system administrator workstation, is processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base.

For the purpose of being able to utilize all the modules and administrator they must be connected.

Claim 15

Masand, White and Mizuno do not teach the classification apparatus is operable to perform a rule insertion in the knowledge acquisition mode in which a plurality of features are input by a user to the classifier together with a classification with which the features are associated.

Glier teaches the classification apparatus is operable to perform a rule insertion in the knowledge acquisition mode in which a plurality of features are input by a user to the classifier together with a classification with which the features are associated. (**Glier,** C14:50-58; 'Rule insertion' of applicant is equivalent to "add an additional network' of Glier.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by being able to add rules as taught by Glier to have the classification apparatus is operable to perform a rule insertion in the knowledge acquisition mode in which a plurality of features are input by a user to the classifier together with a classification with which the features are associated.

For the purpose of having a flexible system that can be modified for a changing environment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed
or described as set forth in section 102 of this title, if the differences between the
subject matter sought to be patented and the prior art are such that the subject
matter as a whole would have been obvious at the time the invention was made
to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was
made.

Claims 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combination of Masand, White and Mizuno, as set forth above, and further in view of

Salgado. (U. S. Patent 5777882, referred to as **Salgado**)

Claim 19

Masand teaches feature extractor that extracts a plurality of features from a

document (**Masand,** abstract, 'Feature extractor' of applicant is demonstrated by

'features are extracted' of Masand.); a classifier operable on the extracted features to

process the document in one of a knowledge acquisition mode (**Masand,** C29:63

through C30:39; 'Knowledge acquisition mode' of applicant is equivalent to 'training data

bases (TDB) of Masand.) or a document classification mode(**Masand,** abstract) and to

output a predicted classification (**Masand,** C32:39-46) and a confidence value(**Masand,**

C7:1-25; 'Confidence value' of applicant is equivalent to 'cumulative comparison score'

of Masand.),

Masand and White do not teach the classifier is switchable between modes based on user input.

Mizuno teaches the classifier being switchable between the modes under user control. (**Mizuno,** C6:13-18) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand and White by a means to alter between training and classifying as taught by Mizuno to have the classifier is switchable between modes based on user input.

For the purpose of allowing the user a choice when training or classifying is to be used.

Masand, White and Mizuno do not teach a router operable in one of an automatic or manual mode to route the document to at least one of a plurality of destinations, wherein the router mode is switchable between the modes based on a comparison of the confidence value to a threshold.

Salgado teaches a router operable in one of an automatic or manual mode to route the document to at least one of a plurality of destinations, wherein the router mode is switchable between the modes based on a comparison of the confidence value to a threshold. (**Salgado,** C19:38-52; 'Automatic' of applicant is equivalent to "automatically' of Salgado. 'Manual mode' of applicant is equivalent to 'semi-automatically' of Salgado.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by being able to switch from automatic to manual mode depending on a threshold outcome as taught by Salgado to have a router operable in one of an automatic or

manual mode to route the document to at least one of a plurality of destinations, wherein the router mode is switchable between the modes based on a comparison of the confidence value to a threshold.

For the purpose of sending data to the system administrator when only the system cannot perform the given task.

Claim 20

Masand, White and Mizuno do not teach the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing.

Salgado teaches the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing. (**Salgado,** C16:23-35; 'Threshold is adjustable' of applicant is equivalent to 'updating' of Salgado.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White and Mizuno by being able to adjust the threshold as taught by Salgado to have the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing.

For the purpose of using the threshold so that the system or system administrator performs more classification duties.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combination of Masand, White, Mizuno and Salgado as set forth above, and further

in view of Glier. (U. S. Patent 5479574, referred to as **Glier**)

Claim 21

Masand, White, Mizuno and Salgado do not teach the user is a system

administrator workstation coupled to the feature extractor and the classifier.

Glier teaches the user is a system administrator workstation coupled to the

feature extractor and the classifier. (**Glier,** C11:34-38) It would have been obvious to a

person having ordinary skill in the art at the time of applicant's invention to modify the

combined teachings of Masand, White, Mizuno and Salgado by having the modules and

administrator connected as taught by Glier to have the user is a system administrator

workstation coupled to the feature extractor and the classifier.

For the purpose of the administrator being able to train the classifier the administrator must be connected to the classifier.

Claim 22

Masand, White, Mizuno and Salgado do not teach the classifier is switched to the knowledge acquisition mode when a document has been determined to be misrouted.

Glier teaches the classifier is switched to the knowledge acquisition when a document has been determined to be misrouted. (**Glier,** C14:50-58; 'Switched to the learning mode' of applicant is equivalent to 'reorder the training set' of Glier.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, White, Mizuno and Salgado by being able to switch to the learning mode as taught by Glier to have the classifier is switched to the knowledge acquisition when a document has been determined to be misrouted.

For the purpose of the system being able to train itself.

Claim 23

Masand, White, Mizuno and Salgado do not teach the system administrator classifies the document to provide an actual classification.

Glier teaches the system administrator classifies the document to provide an actual classification. (**Glier,** C11:34-38) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined

teachings of Masand, White, Mizuno and Salgado by having the administrator classify

documents as taught by Glier to have the system administrator classifies the document

to provide an actual classification.

For the purpose of being sure where it is suppose to be classified.

Claim 24

Masand teaches the classifier adds an association to the actual classification.

(**Masand,** C6:47-59; 'Association' of applicant is equivalent to "per-target value weight'

of Masand.)

Claim 25

Masand, White, Mizuno and Salgado do not teach the classifier is switched to the

knowledge acquisition mode, a rule insertion sub-mode process is initiated by the user

to train the classifier.

Glier teaches the classifier is switched to the knowledge acquisition mode, a rule

insertion sub-mode process is initiated by the user to train the classifier. (**Glier,** C14:50-

58; 'Rule insertion sub-mode' of applicant is equivalent to 'add an additional network' of

Glier. 'User' of applicant is equivalent to 'user' of Glier.) It would have been obvious to a

person having ordinary skill in the art at the time of applicant's invention to modify the

combined teachings of Masand, White, Mizuno and Salgado by having a user initiate

training as taught by Glier to have the classifier is switched to the knowledge

acquisition, a rule insertion sub-mode process is initiated by the user to train the

classifier.

For the purpose of lessening the workload of the system administrator by having

users initiate training.

Response to Arguments

Applicant's arguments filed on January 16, 2007 for claims 1-4, 9-16, 19-25 have

been fully considered but are not persuasive.

6.   In reference to the Applicant's argument:

Upon entry of this Amendment, claims 1-4, 9-16 and 19-25 will be pending, of which
claims 1, 19, 22 and 25 will have been amended, and claim 17 will have been canceled
without prejudice or disclaimer. In this latter regard, claims 5-8 and 17-18 now stand
canceled without prejudice or disclaimer. In view of the herein-contained amendments
and remarks, Applicants respectfully submit that each of the pending claims is allowable
for at least the reasons provided below.

In the Official Action mailed October 16, 2006, the Examiner presents nine separate
grounds for rejection. Namely, the Examiner rejects claims 19, 22 and 25 under 35
U.S.C. §112, first paragraph, for lack of enablement; claims 1 and 17, under 35 U.S.C.
§103, as being unpatentable over MASAND in view of WHITE; claims 2 and 4, under 35
U.S.C. §103, as being unpatentable over MASAND and WHITE in view of TAN; claim 3,
under 35 U.S.C. §103, as being unpatentable over MASAND and WHITE in view of
TAN2; claims 9 and 10, under 35 U.S.C. §103, as being unpatentable over MASAND
and WHITE in view of ALAM; claims 11, 12 and 16, under 35 U.S.C. §103, as being
unpatentable over MASAND and WHITE in view of REGISTER; claims 13-15, under 35
U.S.C. §103, as being unpatentable over MASAND and WHITE in view of GLIER;
claims 19 and 20, under 35 U.S.C. §103, as being unpatentable over MASAND and

WHITE in view of SALGADO; and claims 21-25, under 35 U.S.C. §103, as being unpatentable over MASAND, WHITE and SALGADO in view of GLIER. Applicants respectfully traverse all grounds of rejection, at least for the reasons provided below, and request reconsideration and withdrawal of the same, and an indication of allowability of all pending claims in the next Official correspondence.

Applicants respectfully traverse the rejection of claims 19, 22 and 25 under 35 U.S.C. §112, first paragraph, for lack of enablement. Although Applicants disagree with the propriety of this rejection, in an effort to expedite prosecution, Applicants herein amend claims 19, 22 and 25 to recite a "knowledge acquisition mode," which has enabling support, for example, at page 7, line 1 et seq. of the specification. Thus, the above-noted rejection under Section 112 is rendered moot by the herein contained amendments. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 19, 22 and 25 under Section 112, first paragraph, and an indication of allowability by the Examiner in the next Official correspondence.

Applicants respectfully traverse the rejection of claims 1 and 17, under 35 U.S.C. §103, as being unpatentable over MASAND in view of WHITE. In this regard, Applicants submit that MASAND and WHITE, whether taken alone or in any proper combination, fail to teach or suggest, inter alia, a "classifier operable on the extracted features to process the document in a knowledge acquisition mode in which each association of a classification with the document is added incrementally to a knowledge base and ... , the classifier being switchable between the modes under user control for each document," as recited in, for example, claim 1. Further, the rejection of claim 17 is rendered moot by this Amendment since the claim has been canceled without prejudice or disclaimer.

At page 3, lines 18 to 22, the specification discloses:

"The described embodiment provides a document classification apparatus which allows learning to be performed in an incremental way by allowing a system administrator to correct document classification mistakes as they occur, the apparatus learning from these mistakes. By incremental learning of new cases does not require re-learning of previous cases, thus eliminating the need to preserve past cases for re-learning."

At page 32, lines 9 to 14, the specification discloses:

"The system administrator can switch between the classification mode and the knowledge acquisition sub-modes by sending a message together with the appropriate data to the document classifier. The message can be either LEARN, INSERT, or CLASSIFY. Depending on the message received, the document classifier adjusts the input baseline

vigilance parameter pa and the output vigilance parameter P_b of the ARAM classifier accordingly and carries out the appropriate sequence of actions."

Examiner's response:

'Feature extractor' of applicant is demonstrated by 'features are extracted' of

Masand. (**Masand,** abstract) 'Knowledge acquisition mode' of applicant is equivalent to

'training data bases (TDB) of Masand. 'Added incrementally' of applicant is equivalent

to 'piecemeal approach' of Masand. Applicant is emphasizing incrementally

modifications indicating this is a unique approach which it is not. All current modern

day computers are based on the von Newman design meaning steps are

accomplished one at a time and not parallel. (**Masand,** C29:63 through C30:39) The

fact there exists a training database implies there exists a switch to switch between

modes (training and classifying). If no switch exists, then one could only train the

classifier or one could only classify without a trained classifier. (**Masand,** abstract)

Mizuno was also added to specifically state a user can change from training to

classifying. (**Mizuno,** C6:13-18)

7.   In reference to the Applicant's argument:

On the other hand, MASAND teaches a "piecemeal approach" (see e.g., column

line 63 et seq. of MASAND) to constructing a Training Database, which differs from Applicants' claimed, inter alia, e.g., "classifier operable on the extracted features to process the document-in a knowledge acquisition mode in which the association of a classification . with each document is added incrementally to a knowledge base," as recited in claim 1. A review of the MASAND patent reveals that MASAND trains the Training Database (TDB) 80 in a batch mode. See e.g., column 29, line 63 to column

line 39. Particularly, MASAND processes a database of documents in order to train a classification model, which he then uses to classify documents. In MASAND, "piecemeal approach" refers to batch processing of all the records in the database to consider each feature in piecemeal fashion. In claim 1, however, the association of a classification with each document is added incrementally to the knowledge base for each document. Thus, MASAND does not teach or suggest, inter alia, a "classifier operable on the extracted features to process the document in a knowledge acquisition mode in which the association of a classification with the document is added incrementally to a knowledge base," as recited, for example, in claim 1.

Further, MASAND does not teach or suggest, alone or in any proper combination, inter alia, "the classifier being switchable between the [knowledge acquisition and document classification] modes under user control for each document," as recited in, for example, claim 1. Instead, MASAND teaches a training system that is used initially, followed by a classification system, each of the systems being used at a different point in time on a batch basis. Assuming, arguendo, that MASAND does imply a switch for switching between a training mode and a classification mode (Applicants submit that MASAND does not imply such a switch), the switching would not be performed on a document-by-document basis, but, instead, the switching would be performed on a batch basis. Moreover, MASAND does not teach or suggest why one would switch back from a classification mode to a training mode, much less, the switching being "under user control for each document." Thus, MASAND does not teach or suggest, alone or in any proper combination, inter alia, "the classifier being switchable between the [knowledge acquisition and document classification] modes under user control for each document," as recited in, for example, claim 1.

Examiner's response:

'Feature extractor' of applicant is demonstrated by 'features are extracted' of

Masand. (**Masand,** abstract) 'Added incrementally' of applicant is equivalent to

'piecemeal approach' of Masand. Applicant is emphasizing incrementally modifications

indicating this is a unique approach which it is not. All current modern day computers

are based on the von Newman design meaning steps are accomplished one at a time

and not parallel. Mizuno was also added to specifically state a user can change from

training to classifying. (**Mizuno,** C6:13-18)

8.   In reference to the Applicant's argument:

At page 5 of the above-noted Office Action, the Examiner concedes that "MASAND does not teach wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing." The Examiner provides WHITE as a secondary teaching, proffering that WHITE teaches what MASAND lacks. Applicants respectfully disagree. Further, Applicants respectfully submit that one of ordinary skill in the relevant art would not have been motivated to combine MASAND with WHITE, as suggested by the Examiner; and, even if the teachings were combinable, Applicants submit that the resultant combination would still fail to teach or suggest all of the claimed subject matter of, for example, claim 1.

Applicants submit that one of ordinary skill in the art would not have been motivated to combine WHITE with MASAND since MASAND and WHITE are from non-analogous arts, and there would have been no reasonable expectation of success. Particularly, MASAND is directed to a system for classifying natural language data. On the other hand, WHITE is directed to a system for automatically and dynamically redirecting telephone calls in a public telephone network. Applicants submit that one of ordinary skill in the art for the MASAND patent would not have looked to the non-analogous art of WHITE for the above-noted teaching of WHITE relied on by the Examiner. Moreover, any attempt at combining the teachings of MASAND and WHITE would have resulted in a resultant system with no expectation of success. Since there is a lack of any motivation to combine the teachings of MASAND and WHITE, the Examiner has failed to establish a prima facie case of obviousness.

Examiner's response:

The combination of White, Masand and Mizuno do teach all the claimed subject matter. Regarding prima facie, both Masand and Mizuno pertain directly to the ability to classify. White is used for specifically illustrating 'threshold' and 'routing'. Both 'threshold' and 'routing' are elements of neural networks but they are implied in both Masand and Mizuno. The Examiner used White which explains in greater detail information concerning both 'threshold' and 'routing.'

9.   In reference to the Applicant's argument:

Applicants further submit, the Examiner provides no motivation or suggestion to make the claimed combination, which must be found in the prior art, not in Applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir.). MASAND and/or WHITE do not provide such a motivation or suggestion. Even if MASAND and WHITE could be combined, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The relied upon references fail to suggest such a desirability. Accordingly, for this additional reason, Applicants submit that the Examiner has improperly combined MASAND with WHITE.

Examiner's response:

Masand is used for classification of data. Masand discloses a router (Fig 1).

White is used due to the fact it discloses (in greater detail) automatic routing. The

Examiner could have stated assumed knowledge referring to the router but chose a

second reference for greater detail.

10.   In reference to the Applicant's argument:

Nevertheless, even if, arguendo, the teachings of MASAND and WHITE are combinable (Applicants submit they are not), WHITE does not remedy the insufficiencies found in the teachings of MASAND. WHITE teaches overload protection for on-demand access to the Internet that redirects calls from overloaded Internet service providers (ISP) to alternate Internet access providers. In this regard, WHITE teaches using Advanced Intelligent Network (AIN) triggers to cause a program controlled switch to initiate a query to a remote database (see e.g., column 14, line 7 et seq.). The remote database may include current parameter values (such as, for example, "call rate," "busy rate," "quick disconnect rate," "call wait," or "call duration" as shown in FIG. 10) and thresholds (such as, for example, "exceed high threshold," "exceed combination thresh.," etc., as shown in FIG. 10). WHITE does not teach or suggest, alone or in any proper combination, inter alia, a "classifier operable on the extracted features to process the document in a knowledge acquisition mode in which the association of a classification with the document is added incrementally to a knowledge base and in a document classification mode in which the classifier, using the knowledge base, is

operable to determine a predicted classification for the document, the classifier being switchable between the modes under user control for each document [emphasis added]," as recited, for example, in claim 1.

Thus, Applicants submit (aside from there being a lack of motivation to combine MASAND with WHITE) that the combination of MASAND and WHITE, against their respective teachings, would not to teach or suggest, inter alia, a "classifier operable on the extracted features to process the document in a knowledge acquisition mode in which the association of a classification with the document is added incrementally to a knowledge base and in a document classification mode in which the classifier, using the knowledge base, is operable to determine a predicted classification for the document, the classifier being switchable between the modes under user control for each document [emphasis added]," as recited, for example, in claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection of claim 1 (the rejection of claim 17 being rendered moot upon entry of this Amendment), under Section 103, as being unpatentable over MASAND and WHITE, and an indication of the allowability of claim 1 by the Examiner in the next Official correspondence.

Examiner's response:

'Feature extractor' of applicant is demonstrated by 'features are extracted' of

Masand. (**Masand,** abstract) 'Knowledge acquisition mode' of applicant is equivalent to

'training data bases (TDB) of Masand. 'Added incrementally' of applicant is equivalent to

'piecemeal approach' of Masand. Applicant is emphasizing incrementally modifications

indicating this is a unique approach which it is not. All current modern day computers

are based on the von Newman design meaning steps are accomplished one at a time

and not parallel. (**Masand,** C29:63 through C30:39) The fact there exists a training

database implies there exists a switch to switch between modes (training and

classifying). If no switch exists, then one could only train the classifier or one could only

classify without a trained classifier. (**Masand,** abstract) Mizuno was also added to

specifically state a user can change from training to classifying. (**Mizuno,** C6:13-18)

11.   In reference to the Applicant's argument:

Applicants respectfully traverse the rejection of claims 19 and 20, under 35 U.S.C. §103, as being unpatentable over MASAND and WHITE in view of SALGADO, for at least the following reasons. Applicants submit that the Examiner has failed to establish a prima facie case of obviousness and has used impermissible hindsight in combining the teachings of MASAND, WHITE and SALAGADO.

As discussed above with respect to the claim 1, Applicants submit that the Examiner has failed to establish a prima facie case of obviousness as required under Section 103. Particularly, Applicants submit that one of ordinary skill in the relevant art would not have been motivated to combine the teachings of MASAND and WHITE, as discussed above, and incorporated herein by reference. Moreover, the person having ordinary skill in the art at the time the invention was made would not have had a reasonable expectation of success in combining MASAND and WHITE since they are from such different, non-analogous arts.

Further, the Examiner concedes (see e.g., page 18, lines 1-4 of the above-noted Official Action) that "Masand, and White do not teach a router operable in one of an automatic or manual mode to route the document to at least one of a plurality of destinations, wherein the router mode is switchable between the modes based on a comparison of the confidence value to a threshold." The Examiner provides SALGADO for a teaching of a router, and suggests that the SALGADO router be combined with the teachings of MASAND and WHITE. As with MASAND and WHITE, SALGADO is directed to a system from a non-analogous art. Aside from MASAND and WHITE being from non-analogous arts, and further being non-combinable with a lack of expectation for success, the SALGADO teachings do not alleviate the shortcomings of the MASAND and WHITE teachings, alone or in any proper combination.

        SALGADO is directed to a control system for a sheet handling system having a mailboxing system. Referring to the Abstract, for example, SALGADO teaches a control system that includes a user interface with which one or more print receiving bins of a plurality of print receiving bins are assigned to one of the bin set users. The control system determines, for the bin set user, a frequency of use value varying as a function of a degree to which the one bin set user uses the one or more print receiving bins to which he is assigned and reassigns the one or more print receiving bins when the frequency of use value drops below a preselected threshold.

Examiner's response:

Regarding prima facie, both Masand and Mizuno pertain directly to the ability to classify. Salagado is associated with control system for mailboxing arrangement which the applicant's invention can be used for. Salagado was chosen for specific information concerning updating threshold values.

12.   In reference to the Applicant's argument:

Applicants submit, the Examiner provides no motivation or suggestion to make the claimed combination, which must be found in the prior art, not in Applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir.). MASAND, WHITE and/or SALGADO do not provide such a motivation or suggestion. Even if MASAND and WHITE could be combined with SALGADO, the mere fact·that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The relied upon references fail to suggest such a desirability. Accordingly, for this additional reason, Applicants submit that the Examiner has improperly combined MASAND, WHITE and SALGADO.

Applicants further submit that the further documents relied on by the Examiner, including TAN, TAN2, ALAM, REGISTER and/or GLIER, fail to teach or suggest, alone or in any proper combination, inter alia, a "classifier operable on the extracted features to process the document in a knowledge acquisition mode in which the association of a classification with the document is added incrementally to a knowledge base, and in a document classification mode in which the classifier, using the knowledge base, is operable to determine a predicted classification for the document, the classifier being switchable between the modes under user control for each document [emphasis added]," as recited, for example, in claim 1. Thus, claims 2-4, 9-16 and 20-25, which depend from claims 1 and 19, are patentably distinguishable for at least the reasons provided above with respect to claim 1 and 19, as well as for additional reasons related to their own recitation.

For at least the reasons set forth above, all of the pending claims are submitted to be in condition for allowance. Thus, Applicants respectfully request withdrawal of all rejections and timely allowance of all of the pending claims.

Examiner's response:

Masand is used for classification of data. Masand discloses a router (Fig 1).

White is used due to the fact it discloses (in greater detail) automatic routing. The

Examiner could have stated assumed knowledge referring to the router but chose a

second reference for greater detail. Salgado is used due to the fact it is within the

same category as the applicant. Tan and Tan2 is the inventor himself. Register is

associated with text classification. Glier is used for classification. Alam is concerned

with forwarding email. This entails buth classification of new email and then forwarding

said email.

Examination Considerations

13.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The

Examiner has the full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

14.   Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

15.   Examiner's Opinion: Paragraphs 13 and 14 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

16.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17.   Claims 1-4, 9-16, 19-25 are rejected.

Correspondence Information

18.   Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions

on access to Private PAIR system, contact the Electronic Business Center (EBC) at

866-217-9197 (toll free).

Peter Coughlan

3/7/2007

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